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# THE AMERICAN PSYCHOLOGIST

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# THE CLINICAL METHOD IN SCIENCE

FREDERICK C. THORNE

*University of Vermont*

## HISTORICAL

CLINICAL psychology is entering a period of tremendous development at a time when the profession of medicine as dated from Hippocrates is over 2300 years old, the specialty of modern psychiatry as dated from Pinel is over 175 years old, and modern psychopathology as dated from the work of Freud is almost 50 years old. The significance of these facts is that clinical psychology has a rich medicopsychological heritage with which one must be familiar in order to gain historical orientation to current problems. Paradoxically, the history of medical psychology has not received the consideration it deserves in standard histories of modern psychology such as Boring (2) or Murphy (4). A *History of Medical Psychology* by Zilboorg (7) is a necessary supplement to these.

In contrast with clinical psychiatry and psychoanalysis which are direct descendants of medical psychology dating back from the ancients, clinical psychology in America has its roots in experimentally-oriented academic psychology which is more closely related to philosophy, physics, and mathematics than to medicine. Lacking the orientation of the clinical method as evolved in medical science, many clinical psychologists have approached their problems from the viewpoint of laboratory science and have shown a lack of understanding of the basic principles of clinical methods as developed in medical psychology. The result has been a schism between many clinical psychologists and medically trained physicians because of mutual failure to understand differing viewpoints. It is not desirable for psychologists to retrace the steps of generations of physicians and psychiatrists in discovering the principles of clinical science, or for physicians and psychiatrists to retrace the steps taken by modern psychology in applying the experimental method to the study of personality. In order to avoid a further waste of time and energy in rediscovering what is common knowledge to the older clinical

professions, the study of the evolution of clinical science in general and medical psychology in particular should be a basic requirement in the training of all professional students in the psychological sciences.

## CLINICAL SCIENCE

*The Nature of Clinical Science.* Modern medicine is both a clinical science and a technology. The historical development of modern medicine has been characterized by increasing emphasis on the basic sciences of anatomy (gross, microscopic, and comparative), biochemistry, physiology (normal and pathological), and pathology (gross and microscopic). Both medical education and clinical practice are currently oriented about a thorough foundation in basic science which operates to introduce the experimental viewpoint wherever applicable. Although medical science has not utilized experimental and statistical techniques to the same degree as psychology, recent trends indicate that knowledge of these methods is rapidly becoming widely disseminated in medical science. In most modern medical teaching centers, there is as rigid adherence to experimental methods as may be found in psychology.

Similar comments are applicable to the clinical handling of individual cases. Formerly, clinical technology was mainly empirical, i.e. based on study and "experience" rather than experiment. To a certain degree, therapy must always be empirical since the primary consideration is the welfare of the patient rather than the conduct of a scientific experiment. Perhaps the most significant development, however, is the increasing application of the experimental approach to the individual case and to the clinician's own "experience." Ideally, diagnosis (description) and treatment of each individual case may be regarded as a single and well controlled experiment. The treatment may be carefully controlled by utilizing single therapeutic factors, observing and recording results systematically, and

checking through use of appropriate quantitative laboratory studies.<sup>1</sup> In addition to the general scientific orientation to the individual case, there are frequent opportunities in clinical practice to conduct actual experiments to determine the validity of diagnosis or the efficacy of treatment. For example, a simple experiment may be set up in which a placebo and a specific drug may be administered according to a definite pattern such as ABBA with careful recording and mathematical analysis of results. In the most advanced medical center practice, experimental methods have largely replaced the intuitive methods formerly so commonplace. Individual clinicians are encouraged to apply experimental and statistical methods in the analysis of case results, and larger scale analyses are made of the experience of the whole clinic over a period of years. Thus, the clinician comes to regard each individual case as part of a larger sample.

*Methods of Clinical Science.* Although the primary emphasis is on the individual case, the basic methods of clinical science involve the same techniques of description, classification, and explanation as are standard in experimental laboratory science. The fact that description and classification in clinical science have the additional objectives of diagnosis and rational therapy does not detract from their essential validity and reliability, since all stages in the process may be objectively quantified by the same methods of analysis as are applicable to any other type of data. These points need to be clearly recognized as offering a rebuttal against the oft-repeated statement that clinical practice involves an art or a technology rather than a science. The increasing availability of scientifically validated tools and of clinicians whose judgments may be demonstrated to have high validity and statistical reliability is rapidly minimizing the necessity for the clinician to be an artist rather than a scientist. Both in medical practice and clinical psychology, "intuition" has long since been displaced by objective methods which may be taught and utilized by all who have adequate training in these fields.

<sup>1</sup> An example of the experimental therapeutic approach in modern medicine may be seen in the abandonment of older empirical "shot-gun" methods in which several drugs were included in one prescription in the hope that one would be effective. Current practice involves prescribing specific drugs singly so that the effect may be experimentally determined.

*Description in Clinical Science.* Clinical medicine has slowly evolved a system for eliciting and describing the physical characteristics of the organism with special reference to pathological deviations. This description is technically known as *physical diagnosis*. The subject of physical diagnosis represents the accumulated experience of many generations of physicians who have developed an objective system for describing every known sign; it can be taught to medical students with such exactness that the results of the examinations of competent physicians show a very high reliability. In medical science, when a new sign is discovered, it is immediately investigated by the experimental sciences of physiology and pathology to verify its aetiology and significance.

Techniques for objective description have been slower to develop in psychological science because of the extreme complexity of personality. Psychiatry, however, has evolved the concept of *mental status* which recognizes that personality characteristics are in constant flux so that any description can validly refer only to the moment at which it was made. Methods for objectively determining mental status are outlined in all standard psychiatric textbooks. The best examples of case history involve verbatim reports of the subject's actions and words with a minimum of interpretation by the observer. Clinical psychiatry has developed methods for personality study in the minutest details as evidenced by case reports of single individuals totaling hundreds of pages.

*Terminology of Clinical Science.* The modern era of medicine has been characterized by exacting attention to matters of terminology. The prescientific era lacked a uniform system of nomenclature and utilized personal names and popular terms to label new discoveries. During the past two decades, the basic essentials of adequate terminology have been determined and made operative. New syndromes of disease are described in terms of the basic pathological processes. A standard nomenclature of disease has been accepted. The metric system has become standard for describing the physical attributes of objects. The use of personal names and popular terms has been discontinued. The effect of these innovations has been to standardize medical science throughout the world.

*Validity and Reliability of Clinical Data.* The

basic validity and reliability of the data collected in clinical science are determined by the cumulative efforts of succeeding generations of observers trained in the most advanced methods of their times. For thousands of years, data have gradually accumulated and been transmitted through formal education. The process was painfully slow until the modern era of scientific medicine. Within the last century, all data gathered in the prescientific era have been carefully rechecked with experimental methods to determine their validity, and an objective body of fact gathered which will probably stand the test of time.

In the United States alone there are over 150,000 registered physicians; the majority are graduates of grade A schools where they were exposed to objective methods of thinking and working. With such a large number of practitioners, every new discovery now receives an intensive clinical trial which quickly proves or disproves its validity. The psychologist will be interested in knowing that this mass clinical trial frequently results in disproving conclusions drawn from the most intensive preliminary experiments possible in the laboratory. In effect, the results accumulated by the entire profession constitute an experiment on a grand scale not possible in the laboratory. An interesting example of this general principle may be taken in the standardization of a new drug. Federal laws require extensive animal experiments to determine basic properties and toxicity. The drug is then released for preliminary human experiments. If the drug is safe and efficacious, it is finally released for general clinical use. In many instances, complete information has been obtained only after several years of clinical trials on a mass basis.

*Prediction in Clinical Science.* Extensive training under carefully controlled conditions provides the physician with a wide knowledge of clinical syndromes, the range of variation within a syndrome, and its typical clinical course. It is this ability to predict the clinical course of a single case, on the basis of data from an adequate sample of similar cases, which makes possible valid prognosis. Apart from its predictive values in understanding any particular case, accurate prognosis serves as a check on the validity of the rationale of the therapy. Given a wide experience concerning the range of

manifestations of a disease, it is possible to predict eventual outcomes with genuine validity. Such accurate prognosis permits the anticipation of problems before they have developed and makes case handling more efficacious. It is in this respect, perhaps more than any other, that the older clinician is perceptibly more skillful than the younger, other factors being equal. In spite of the imposing complexity of theoretical knowledge as evidenced by impressive textbooks and medical center education, there is no substitute for experience in the translation of knowledge into practical case handling. With all the laboratory procedures available in the medical center, it is a significant fact that the experienced country practitioner utilizes the older methods of direct examination and prognosis to produce results in case handling which compare favorably with the best medical center practice.

#### DIAGNOSIS IN CLINICAL SCIENCE

In the following presentation, *diagnosis* refers to the description of the organism and its behavior by a variety of methods whose basic purpose is to discover the personality dynamics of each individual case. It is implied that the more complete the description, the more complete will be our understanding of why, when, where, and how the individual got that way. Once this information has been obtained it may be utilized for a variety of purposes outlined below.

*Objectives of Diagnosis.* Historically, the objective of diagnosis was principally to identify a disease. In modern medicine and psychiatry, however, diagnosis involves more than mastering the nomenclature of diseases and attempting to recognize a known syndrome of pathological phenomena. Psychodiagnostics has evolved beyond problems of classifications of "diseases" to the more mature objective of completely describing each individual case in order to demonstrate the aetiological factors whose dynamic interplay has produced the unique configuration of personality traits which is a person. Among the more important objectives of diagnosis are:

1. To demonstrate the aetiological factors.
2. To differentiate between organic and functional disorders.
3. To discover the personality reaction of the organism to its disability.

4. To discover the extent of organic damage with resulting functional disability.
5. To estimate the extensity or intensity of the morbid process in relation to actuarial data concerning type and severity.
6. To determine the prognosis or probable course.
7. To provide a rational basis for specific psychotherapy.
8. To provide a rational basis for discussing the case with the patient and relatives.
9. To provide a scientific basis for classification and statistical analysis of data.

Accurate diagnosis orients the clinician to many relevant facts relating to the pattern of disorder in general and to the particulars of the individual case which may determine the success or failure of the whole process of case handling. Brill (3) emphasizes that an inability to arrive at reliable diagnoses may threaten a psychiatrist's whole practice, particularly in cases where it is necessary to organize the resources of the whole environment to produce desired results. The beginner is primarily concerned with diagnosis as a method for identifying clinical syndromes. Identification is an important but preliminary step; the experienced clinician utilizes diagnosis as the foundation for all rational case handling.<sup>2</sup>

*Principles of Diagnosis.* Accumulated experience with problems of diagnosis has resulted in the acceptance of the following basic laws:

1. *The law of parsimony.* Lloyd Morgan's canon states that the simplest explanation involving the fewest possible causal factors is usually the most probable; an attempt should be made to explain all symptoms by one rather than multiple aetiological agents.
2. *Evaluation of the whole organism.* Disorders of parts or part-functions should be related to the whole organism. The psychobiological principles of Adolf Meyer represent an attempt to classify disorders as different patterns of

reactions of the total organism as it meets the environment.

3. *Principle of differential diagnosis.* With complex diagnostic problems, it is necessary (a) to recognize the probability that a diagnostic problem exists, (b) to list the known syndromes which must be considered, (c) to weigh and evaluate the observed facts in the light of diagnostic possibilities and to reason from them to logical conclusions, and finally (d) to accept a diagnosis which explains all signs and symptoms.
4. *Laws of probability.* In the absence of pathognomonic evidence concerning the nature of a morbid process, mathematical probabilities favor those conditions for which there is actuarial evidence of higher incidence. Do not play the long shots.
5. *Evaluation of evidence.* The consensus of medical opinion is that the use of the senses is the most important factor in diagnosis, i.e. that there is no substitute for the careful and minute observation of the living patient. Where clinical findings from observation disagree with laboratory findings, the former have frequently proven to be more valid since human errors exist in laboratory work too. Where an apparent conflict exists between subjective reports of the patient and objective signs, the latter have greater weight.
6. *Cooperative studies.* The major contribution of modern medical center practice is the co-operation of specialists operating as a team in clarifying obscure diagnostic problems.
7. *Pathognomonic signs or symptoms.* Clinical data should be analysed to discover those pathognomonic signs which are of specific localizing value.
8. *Koch's postulates.* Although derived from bacteriology and not directly applicable to psychology, these laws state that in order to establish any agent as the definite aetiological cause of a morbid process, it is necessary to demonstrate that (a) the specific factor must always be associated with the disease; (b) when isolated in pure culture, and inoculated into a healthy susceptible animal, it must always produce the disease, and (c) it should be obtained again in pure culture. Some such

<sup>2</sup> Compare with the viewpoint of nondirective counseling as expressed by Rogers (5). As emphasized by Super (6), nondirective methods are based on the diagnosis that all maladjustments are caused by emotional conflicts, which postulate in itself is questionable. Such a unidimensional cause for maladjustment is not only inconsistent with accumulated experience but leads to the therapeutic fallacy of treating every morbid process with a single panacea.



criteria are needed in psychological science to establish definite standards for evaluating psychogenic factors.

Diagnosis must be a continuing process which can never be complete since the constantly evolving pattern of an individual life is not finished until death. The experienced clinician recognizes that the exploration of all the areas of personality is a lengthy process in which it is not unusual to carry a case for years before evidence vital to a valid diagnosis is discovered. In personality study, diagnosis concerns the description of a continuing process rather than the identification of a disease.

*Different diagnostic approaches.* Although complete description would ideally explain the dynamic personality configurations of each individual case, the practical situation frequently demands that the clinician construct a diagnostic summary of the dynamic factors operant in an individual case. Whether the objective is to identify a disease as in medicine or to describe the morbid characteristics of an organism-meeting-its-environment, it is necessary to make a valid analysis of clinical data and the following methods have classically been used:

1. *Inductive methods.* These involve reasoning from the particular to the general. Given a collection of signs, symptoms, and other data, an attempt is made to differentiate a more general pathological process capable of explaining all the clinical findings. This process may involve the following steps:
  - a. Collecting all available evidence descriptive of the morbid process.
  - b. Searching for pathognomonic signs.
  - c. Postulating a pathological process to explain clinical data.
  - d. Identifying the postulated pathological process with a known disease.

2. *Deductive methods.* These involve reasoning from the general to the particular, i.e. from premises or theories to concrete examples. Given a knowledge of pathology, an attempt is made to correlate clinical findings with standard patterns of disease according to the following steps:

- a. Listing all known syndromes even remotely related to clinical findings.
- b. Determining individually whether the

data are congruent with a known syndrome.

- c. Various outlines may be utilized where obscure clinical findings cannot be immediately classified, i.e.
  - i. In terms of aetiological factors such as heredity, infection, trauma, neoplasm, etc.
  - ii. In terms of known disease entities, i.e. psychasthenia, etc. (This approach has been abandoned in the psychological sciences.)
  - iii. In terms of dynamic personality processes, i.e. aggression, rejection, over-regulation, over-protection, etc.

3. *Diagnosis by exclusion.* Negative diagnosis by the careful exclusion of other diseases is notoriously invalid and generally unacceptable in modern clinical practice.

4. *Failure to diagnose.* Modern practice has discarded the older tendency to label a disorder as "idiopathic" when its cause was unknown. Other "waste-basket" diagnoses such as "hysteria," are also no longer acceptable. The term "undifferentiated" is used in the absence of a definite positive diagnosis.

It is not the specific purpose of this paper to discuss in detail the various diagnostic methods which are currently available to implement the general approaches outlined above.

*Role of pathology.* Psychologists in general have not shown understanding of the role of the basic science of pathology in modern medicine. Pathology is concerned with the aetiology and morbid processes characteristic of each syndrome of disease or disorder. The emphasis in gross or microscopic anatomic pathology concerns the morphology of disease; in pathological physiology, the primary concern is with the pathological functioning in disease; and in psychopathology, the emphasis is on a disorder in the total configuration of the individual meeting the environment. Pathology, whether morphological, physiological, or psychological, has reached its present important position in medical science because of the recognition that rational therapy depends upon valid diagnosis which depends upon an exact knowledge of the aetiology and dynamic nature of morbid processes. In medicine, pathology is (a) recognized as the basic course in

preclinical basic science, (b) required for certification by the specialty boards, and (c) required in medical facilities for approved ratings.

The evolution of psychopathology as a formal subject has occurred more slowly. The methods of gross and cellular pathology are not directly applicable to psychological problems. Two important historical trends are demonstrable. *Abnormal psychology* contributed experimental studies of sensation, perception, memory, learning, thought, affective life and other more complex phenomena such as hypnosis. *Psychiatry* inherited the medico-psychological tradition which included major contributions from Virchow, Kraepelin, and Freud. Failure of these two historical trends to amalgamate is explained by the academic isolation of academic psychology and clinical psychiatry; an integration is long overdue. Whatever the subject matter comes to be called, it is basic to valid diagnosis and therapy.

A practical outgrowth of the subject of pathology is the *clinical pathological conference* which is a device for correlating and checking clinical findings with the results of gross, microscopic, laboratory, and other findings. In the CPC, the physician first makes a complete presentation of the clinical and laboratory findings in a case and then indicates his differential diagnoses, following which the pathologist presents his findings which prove the actual causes of the disease. In the psychological sciences, the conference might have a slightly different organization in which the clinician would present his analysis of the individual personality including evaluations of intelligence and personality dynamics following which objective evidence from psychometrics, projective testing, electroencephalography, etc., would be presented. The CPC is very effective in evaluating the clinical abilities of individual practitioners and in constantly rechecking the validity of diagnosis and treatment. Not only is the physician stimulated to perfect his diagnostic and therapeutic abilities, but there is a public discussion of his case handling by his colleagues. In contrast with older attitudes in professional ethics which tended to conceal and perpetuate error, the CPC operates to reveal and correct the causes of error and to improve the clinical abilities of all who participate in them.

#### CLINICAL SCIENCE AND THERAPY

Many of the observations which have been made in relation to scientific methods of diagnosis are also applicable to therapy but in lesser degree. In matters of diagnosis, scientific methods are almost universally applied within the limits of existing knowledge. In therapy, however, the major objective is to relieve or cure the patient and this sometimes conflicts with the systematic application of scientific methods. The modern era has been characterized by a constant revision of therapeutic methods in conformance with the latest discoveries of basic science. Wherever possible, experimental and statistical methods have been utilized in the evaluation of therapy both in individual cases and with large samples of clinical materials. Masses of data from large samples of a population have provided a validation of therapeutic methods far beyond that yet obtained from experimental laboratories.

*Definition of therapy.* Formal therapy should be differentiated from common-sense techniques as applied by laymen. In its broadest connotations, therapy includes all forms of *case handling* derived from a scientific evaluation of the individual case by competent personnel. Rational therapy, whether directive or nondirective, proceeds logically from aetiological studies, clinical examinations, and laboratory studies from which a diagnostic formulation results. Depending upon therapeutic indications, case handling may range from the most superficial contacts as in counseling to the most intensive depth therapy as in psychoanalysis.

*Principles of therapy.* Modern medical therapy is based upon a rigid adherence to materialistic concepts of the aetiology of disease. The prescientific dependence upon empiricism and trial-and-error methods has been displaced by a detailed knowledge of pathology, accurate diagnosis, and the rational formulation of a therapeutic plan which is specifically adapted to the individual case. In contrast with older irrational methods in which various combinations of methods were combined, modern practice emphasizes the selection of specific remedies utilized singly according to the latest scientific knowledge. Among the commonly accepted principles of modern therapy are:



1. *Adequate diagnostic study.* Except in emergency or to give symptomatic relief, the basic essential to rational therapy is a valid diagnosis.
2. *Detailed knowledge of limitations of methods.* The clinician should know the exact indications and contra-indications for each therapeutic tool. Choice of methods is determined only after a careful consideration of indications.
3. *Treating basic causes.* Treatment should be directed toward basic aetiological factors rather than symptoms. Also, the whole organism should be treated rather than part functions.
4. *Plan of therapy.* Alexander (1) and others have stressed the importance of making a definite plan of therapy for each case with specific attention to individual needs.
5. *Specific therapy.* Where possible, methods known to have specific action should be chosen. Where symptomatic, palliative, or systemic therapy is indicated, these also should be prescribed specifically.
6. *Combinations of methods.* Where possible, the use of a single therapeutic agent at one time is indicated. This provides for more controlled variation of the experimental factor and facilitates scientific analysis of data. Where combinations are desirable as in the total push method described by Myerson, these should be prescribed rationally.
7. *Evaluation of results.* In the absence of experimental or statistical proof, therapeutic results are evaluated with extreme caution.
8. *Scientific analysis.* Where possible, the latest scientific methods are to be utilized in the analysis of individual and group data.
9. *No miraculous panaceas.* The history of clinical science reveals that a true panacea has never been discovered in spite of claims made for new drugs and methods. Modern pharmacology has demonstrated that only a few of the thousands of known drugs have any specific effect. In the even more complex area of psychotherapy, it appears improbable that any one method has universal applicability.
10. *Eclecticism in clinical science.* The complexity of the human organism and its disabilities

is so great, that methods of therapy must be equally numerous and complex. Adherence to any particular "school" of thought will usually limit the therapist's effectiveness to the situations for which his method is specific. Eclecticism is the keynote of modern science.

*Objectives of therapy.* The rigid experimentalist sometimes overlooks the truism that the basic objective of therapy is to improve the patient's condition. There are situations in which the demands of scientific method and the needs of the individual patient are incompatible. Few patients desire to be scientific guinea pigs nor would their relatives condone this even though the patient desired it. Modern practice, therefore, usually represents a compromise between what is scientifically ideal and what is practically desirable. This conflict is not serious or insoluble in most cases since what is best scientifically is also best for the patient. Within the limits of this general orientation, we may consider a number of more limited theoretical objectives as follows:

1. *Prevention.* Even more basic than cure is prevention.
2. *Correction of aetiological factors.* Anatomical, physiological, and psychological factors are specifically treated.
3. *Palliation.* Symptomatic treatment directed toward the relief of subjective symptoms is of vital import to the patient.
4. *Systemic support.* Nonspecific measures are directed toward the improvement of the state of health of the total organism.
5. *Facilitating growth.* Treatment should ideally facilitate rather than interfere with natural developmental processes.

More specifically, psychotherapy seeks to achieve more limited objectives which are specifically corrective of various pathological syndromes which are dynamically related to the problems of the organism meeting the environment.

6. *Reeducation.* Since human behavior is regarded as being largely learned or acquired through experience, therapy seeks to reeducate and teach new modes of adjustment.
7. *Expressing and clarifying emotional attitudes.* From the cathartic method of psychoanalysis to current nondirective methods of counsel-

ing, major emphasis has been placed on methods of securing emotional release and expression in a permissive, accepting environment.

8. *Resolving conflict and inconsistencies.* Since conflicts and inconsistent attitudes threaten personality integration, therapy seeks to remove repression and ambivalencies in the mental economy.
9. *Catalysing maturation.* Recognizing that many morbid processes involve immaturity and regressive reactions, therapy seeks to catalyse maturation to the most complete state of development of which the individual organism is capable.
10. *Self-understanding.* All psychotherapy has the objective of stimulating the client to understand and accept himself, to develop genuine insight into feelings, attitudes, and motivations.

*Conduct of practice.* The medical profession has always insisted that the patient be completely free to choose his physician. The physician is free to accept or reject the relationship, but once having accepted the patient for treatment, he is legally responsible for handling matters of diagnosis and therapy according to the highest standards existing in his locality until such time as the physician notifies the patient that he is withdrawing from the case. Once having chosen his physician, the patient is supposed to follow the directions of the physician who is no longer legally responsible if the patient fails to do this.

The ethical physician conducts his practice in accordance with the Hippocratic Oath and the recognized ethics of the profession. Errors of commission and omission caused by failure to observe ethical principles or to apply accepted methods of treatment make the physician legally responsible for malpractice. Since scientific medicine is now recognized universally as the basis for standard practice, it follows that increasing pressure is being brought upon the individual physician to conform to scientific practice wherever possible.

#### GENERAL BIOLOGICAL ORIENTATION

The broad orientation of modern medicine is in the direction of biological science. It is significant

that such recognized leaders as Sigmund Freud and Adolf Meyer had a genuinely broad and eclectic viewpoint based on intensive basic training in the biological sciences which are required in medical education. Psychologists have theoretically accepted the principle of the desirability of broad biologic training but in practice their training and experience have been much more limited. The factors which have kept psychology, psychiatry, and other specialties in scientific isolation are artificial and must soon be dispelled. Physicians will become better doctors when they are oriented toward the contributions of psychology, and psychologists will become more effective as they acquire a more general biological and medical orientation.

#### SUMMARY

The history of medical psychology has great significance for the development of clinical psychology; it can profit from the long experience of medicine. Medical practice has evolved over a period of more than 2300 years with a resulting accumulation of general principles and methods of thinking which are significant for all clinical specialties. It is particularly important to integrate the contributions of the modern era of scientific medicine with clinical psychology to break down artificial barriers of isolation which have impeded the mutual development of medicine and psychology. The evolution of the clinical method in science has been reviewed with special reference to problems of diagnosis and therapy.

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# THE FUTURE OF RESEARCH IN CLINICAL PSYCHOLOGY AND PSYCHIATRY<sup>1</sup>

DAVID RAPAPORT

*The Menninger Foundation*

WE HAVE been and still are bombarded in our daily newspapers and in our professional journals with statements of the tremendous need in the community for psychiatric service. We have been made keenly aware of the fact that our present psychiatric facilities and personnel are totally inadequate to handle the actual size of the psychiatric problem in the community. I shall dwell on this issue only briefly. The long waiting list in our Department of Clinical Services at the Menninger Clinic proves the point. Good documentary evidence can be obtained from data of the Veterans Administration which absorbed into its services a great part of the psychiatrists and clinical psychologists available in this country and still finds most of its installations understaffed.

The tremendous demand for psychiatric education has also been hammered at us in the last few years with penetrating power. Documentary evidence for this can be had in the number of applicants we have had to reject in our schools. Further evidence for this is the fact that the Veterans Administration is working on setting up still more centers for the education of psychiatrists and psychologists. Would it not seem correct then to say that in times of such great need for actual services for training research is a superfluous luxury? Let me quote to you a passage from Raymond B. Fosdick's (President Rockefeller Foundation) *Morton Memorial Lecture*: "I talked the other day at Lake Success with one of the high officials of the United Nations. 'The chief thing we lack at the present time' he said 'is knowledge, tested knowledge. We seem to have to guess our way along'." If I understand it correctly, the United Nations official was complaining that the time is passed when political art could solve the problems of international relations. The

problems have grown so tremendous and complex that tested *knowledge* is necessary instead of the *art* of 'guessing our way along.' Psychiatry and clinical psychology are in the stage in which there is a great discrepancy between the meagerness of teachable tested knowledge on the one hand and the richness of our experience and versatility in the clinical art on the other. It is far from me to assume that dealing with people, with human beings, will not always retain to some extent the character of art. It is far from me to assume that therapy will not always be to some extent dependent on the individual ingenuity, the individual art of the therapist. How should I think otherwise when even the application of well-tested tools, well-tested knowledge of machines requires the individual ingenuity of the mechanic. The crux of the matter is whether we shall have well-tested tools, well-tested knowledge, applied with clinical ingenuity or whether all shall be left, as it is grossly at present, to the ingenuity of the individual therapist.

It is the job of research, and research alone, to produce tested knowledge that can be used *with* the art of the clinician. The question could be raised: Is it possible that clinicians in their clinical work produce this tested knowledge? The atmosphere of the Hippocratic oath, the importance to the clinician to discharge his duties to the patients first, is inimical to research. Add to this the present-day never-ending stream of patients and there is no room left for contemplation, no peace for theoretical, systematic clarification. We have seen these years a stream of ingenious, topflight clinicians lecture in our institution, from all over the country and even from overseas. I believe that it was our overwhelming impression that—excepting a very few like the late Fenichel—systematizing ingenuity was not a part of these clinicians' equipment. On the other hand the academic men who lectured here showed that the clinical immediacy of the problems

<sup>1</sup> Excerpt from the annual report of the Director of the Research Department of the Menninger Foundation to the Board of Trustees for the fiscal year 1945-1946.

and the formation of concepts in terms meaningful and useful to clinicians were more or less missing in their thinking. The task therefore is the creation of a research atmosphere within the clinical setting which will introduce academically trained people to clinical problems and induce clinical people to clear theoretical systematic thinking. Only this coupling can assure substantial development in psychiatry and clinical psychology. This development, however, will not take place if academically trained people coming into the clinical setting will only be introduced into its hectic character, its restlessness, its lack of peace. Nor are clinicians going to be induced to theoretical thinking simply by living side by side with academic people. Only the creation of an island of peaceful work in the clinical setting within which sufficient time for contemplation is given, will make such a marriage fruitful.

I have raised the question whether or not, at this time of great demand for psychiatric services and for psychiatric education, research should be considered a dispensable luxury. After the foregoing considerations my answer would be that it is clinical services and teaching, insofar as they deplete all our sources of research personnel and finances, that should be considered at this time luxuries, rather than research.

However, without clinical practice clinical psychological and psychiatric research would tend to become sterile. Without teaching it would become divorced from the responsibility and the possibility of self-perpetuation by raising new researchers. If it were not for these facts, one would want to recommend that the most able psychiatrists and clinical psychologists be withdrawn altogether by some means from practice and teaching to be cloistered for research.

If we turn, however, from this enlightening paradox to the confused and confusing reality, we find, besides the fact of tremendous need for service and training, further facts which deserve our serious consideration. I believe that in charting the course of our research it is our responsibility to take stock of the major factors which are influencing psychiatric and clinical psychological research in the country. I feel that together with formulating our own research plans we have to formulate also general principles for which all of us will stand in the various responsible positions in our respective professions

and in American life. Without effective work on this broader plane we stand little chance to realize our own research plans.

There seem to be four major factors that have decisive influence at present upon the future of research in psychiatry and clinical psychology: (1) The distribution of talent, (2) public awareness of the need for research, (3) the National Mental Health Act, and (4) the private foundations. Let me take these one by one.

Psychiatric and clinical psychological talent at present is thinly spread all over the country. Years ago already Gregg in his Salmon lectures clearly recognized one of the factors responsible for this thin spread. He concluded that the greatest single enemy of medical research is the competition of private practice with its great earning opportunities and lure for the able and self-assertive man. If we consider in addition that the Veterans Administration has opened a large number of positions—compared with the number of available psychiatrists and clinical psychologists—and that with the increasing need for teaching, new departments of psychiatry and schools of clinical psychology have opened up, we have plentiful explanation for this spreading thin and diverting from research of psychiatric and clinical psychological talent. Further, we find that able young psychiatrists and clinical psychologists, the future promise for psychiatric and clinical psychological research, are now absorbed by institutions and universities in high teaching and administrative positions. These men who were slated in our minds for research are now casting around for more people to add to their departments or are now engaged in creating private clinics. They do all this with the pipe dream that when they find enough people to man their respective institutions they will have opportunity for research. Yet we know very well the facts of clinical practice and education: the need for therapy is insatiable; there come always new and more patients; the demands of education go beyond all bounds because a professional discipline which is grossly an art can only be taught by precept. The energies of teachers and clinicians are all absorbed by these tasks. I believe that there are two things that can be done: first, we must build up professional public opinion which will build up dams against the lures of private practice by giving recognition and standing to



people in research and not merely, as it has been done so far, to people who write papers. Professional standing, professional respect and reward for people in painstaking, systematizing work has to be enhanced in order to make the positions for such work attractive. Still along the same lines, the main institutions responsible for the thin spread of the professional talent have to strive to concentrate talented men in a few chosen places and enable them to devote themselves freely to research work. We know that the Veterans Administration has provided generously for research finances through direct grants as well as through grants to the National Research Council. We have to say to the Veterans Administration that money alone will not do it. First, research talent will not arise without concentration in a few places of able people. Second, research positions have to fulfill two criteria: they must be financially attractive and have tenure, and they must not be linked with a demand for immediate production. Research does not flourish if it has to deliver the goods immediately. Good thinking is not characterized by the ability to produce immediately; though good thinking can in real need be called upon for immediate production. Physics and chemistry which rose to the national emergency in the course of the war did not do so merely because of pressure but rather because many years of painstaking preparation made their thinking sufficiently good to rise to real need. Pressure alone would have never done it; pressure alone will never do it.

The second major factor that has a decisive influence upon psychiatry's future is public awareness of the need for psychiatric and clinical psychological research. Psychiatry and clinical psychology have been oversold. A discipline whose earning power is great and which in addition is oversold is in danger that its needs will not be seen. That is particularly true of research needs. That this is not merely a theoretical speculation is clearly shown by the fact that even the planned appropriations of the National Mental Health Act which are monumental compared with research finances we have had so far for psychiatry and clinical psychology do not come up to the advertised or even the actual size of the psychiatric problem. The other danger in the psychiatric and clinical psychological position is the great public demand—due to overselling—

for the application of psychiatry and psychology in industry, in personnel relations, and in social and political affairs. Psychiatrists and psychologists were only too tempted to hear these demands. Yet the fact is that well-tested knowledge is not extant and psychiatrists and psychologists are—to use Fosdick's words—"guessing their way along." I would suggest that we let others "guess their way along" even if with the help of psychological insight we would be able to guess ten, twenty, or thirty per cent better. We certainly could not do any better than that. It should be hammered into psychiatric and psychological as well as into the more general public consciousness that psychiatrists and clinical psychologists must be left to cope with the patients and with the enormous expanse of research problems and not run to try to solve the ills of the world right away. We have to discipline ourselves and let first things come first. Surely, we would want to contribute to the solution of the world's problems, to bridging the gap that came about when technological progress outstripped development of our interpersonal, social, and international relations. However, we will be best able to do that if we, for the time being, resign ourselves as professionals to further establish the science of our own profession and take stands on the social, political, and international affairs only as individuals, acting on our own personal responsibility. Public consciousness has to be influenced, however, in another respect also. In our whole huge country all the research professors in psychiatry can be counted on the fingers of one hand. Researchers hardly have tenure. They are hoping to become regular professors, research professorships being scarce, and when they achieve this hope they are weighed down with duties of education and research aims are relegated at best to minor importance. This is true also where research is connected with clinical work; there practical duties lure away from research and militate against systematic thinking, while propagating artistic intuitive thinking. We must build up a public consciousness which will value long-range thinking, which will not reward its thinkers—as Cannon put it—with deanships, a reward of a Trojan horse character.

Our civilization underestimates leisure. It fails to distinguish it from idleness, and thereby cuts a rich source of power and inventiveness, of imagi-

nation and creativeness. I believe I speak with the authority of the best of researchers of this country when I say that we will have to educate our public by rising as knights in defense of leisure, leisure for the researcher and thinker, leisure institutionally created and protected. We will have to do this by providing finances, and positions, by protecting ourselves from premature social application, by creating groups of people who can fertilize the thinking of each other instead of spreading our talents very thinly.

The third major factor in psychiatry's future is the National Mental Health Act. The existence of this Act is a great step ahead. We must not forget, however, that research is not the sole purpose of this Act and that within its functioning the relative emphasis may be either on supporting services, or education, or research. So the considerations here advanced concerning the relative importance of these should hold for the National Mental Health Act also. Research will be fostered by it primarily only if the general consciousness concerning need for research is foremost in the psychiatric and clinical psychological community as well as in the broader community. As to the problem of research proper within the Mental Health Act, a series of considerations deserve our attention. Foundations that have supported psychiatric research in the past have contributed little to the firm grounding of psychiatric research in general and to security, tenure, and leisure of the researcher. They supported isolated researches in psychiatry and even in clinical psychology but the general air was that these researches are to be undertaken in order to "deliver the goods" within a given range of time. Most of these have been short range grants and guaranteed no tenure. The researcher's security therefore depended upon his carrying another job as well. This, of necessity, took his leisure away. There have been only very few exceptions to this rule. Now the National Mental Health Act will not be in a position to endow research institutions or to create continuous fellowships or research positions in places other than the National Mental Health Institute. It should, therefore, be vigorously pointed out to the administrators of the National Mental Health Act that they will contribute to building up psychiatric and clinical psychological research and to determining its policy for the coun-

try by giving long-range grants. These, however, will depend upon annual appropriations by Congress. What other safeguards could be sought within the functioning of the National Mental Health Act for the continuity of psychiatric and psychological research? The only one, I believe, is that the administration of this Act support researches formulated in general terms. That is, not to support mainly researches concerning isolated bits of problems carried on mainly by isolated investigators but rather to support groups of investigators who attack general problems without binding themselves to obtain specific results with specific methods. I have in mind researches like those conducted in schizophrenia at Worcester State Hospital where the grant was given for any investigations their changing team of investigators cared to undertake and was in the position to undertake in the field of schizophrenia. Similarly, I have in mind broadly defined research projects leaving it up to the team and its changing interests, facilities and opportunities, to define what they will be doing. Thereby the project would not terminate when an isolated attack seems to have exhausted its usefulness or when an investigator leaves, but will be continued whether or not one attack seems to have survived its usefulness.

Another problem pertaining to the Mental Health Act is that its existence does and will influence profoundly the attitude and relationship of private foundations to psychiatry. We already know of two foundations which have suspended allocating funds to psychiatric research pending decision until after the policies of the National Mental Health Act have been established. This imposes an added responsibility upon administrators of the Mental Health Act.

Still another problem is the National Mental Health Institute planned in the bill setting up the Foundation. It is not certain whether under the present precarious personnel situation such an institute will actually play a positive or a negative role in the development of psychiatric and clinical psychological research. Since, however, years will pass between the bill, the appropriation, the erection of the building, and the selection of the personnel, it is premature to judge the significance of such an Institute.

Now about private foundations. Grants for psy-



chiatric and psychological research will be supplied by the National Mental Health Act and probably in such amounts and to so many places that considering the present shortage of research personnel no justified demands on such money will remain unfulfilled. What will be the function of private foundations in the field of psychiatry and psychology? I believe that it is the job of the administrators of the National Mental Health Act and of all people who think of the future of psychiatric research to state clearly that at present the tasks of the various foundations supporting psychiatric and psychological research are: to endow institutions for psychiatric and psychologic research and to endow research professorships, and to secure the opportunity that professionals of attainment and reputation spend years away from their usual professional pursuit in institutions of research in psychiatry with traditions different from their own. It will be the job of all of us to indicate the limitations of a federally supported research and to point out that where these limitations start, as indicated above, there the role of the private foundations begin.

Coming to the research activities of the Menninger Foundation, we are faced with the very same problems that we encountered in the broader setting. Our greatest problem in this period was that even the sparse research personnel we had in this year was called upon to perform other duties to the detriment of research work. In spite of all this, due to teamwork and strenuous efforts, the major current research project, the Hypnosis Project, progressed and yielded results which have been described in five research publications; the major research project in preparation, the Infant Research Project, forged its way ahead and yielded some preliminary results embodied in eight different presentations. The major research project that was completed this year, the "Validation and Evaluation of Diagnostic Psychological Test Procedures" brought its final yield embodied in seven different publications, one of which was the monograph "Diagnostic Psychological Testing" published at midyear in an edition of 2000 sets which was exhausted by the end of the year. Preparations for reprinting were made. Several other minor research projects were carried out yielding results embodied in seven different research publications. Research projects in the selection of medical men and psychologists for training

in psychiatry and clinical psychology have been initiated and assistance for them from the Veterans Administration has been assured.

The personnel shortage and the demand on the time of research personnel discussed in the general section thus exerted its detrimental effects very strongly on our research work. Our situation in this respect was so difficult that we had to return a grant which we had already obtained for a specific piece of work in the diagnosis and etiology of alcoholism, for the lack of personnel. The strenuous efforts we made to attract new research personnel were not very successful. There are means we can adopt to improve our situation and these will be soon pointed out. Yet we need general measures to be adopted by the whole psychiatric and psychological community as well as by the common consciousness of the public to assure continuity of research through available research personnel.

Efforts to obtain support for a general long-range research project in problems of infancy, though we had general support for the preliminary work, remained to this date unsuccessful. The situation is that while for specific circumscribed work grants are more easily available, for long-range general planning such support is difficult to obtain. Only the administrators of the National Mental Health Act will be in the position to give such grants. It is also very likely that in order to continue and enlarge the hypnosis research project, which as it progresses involves more and more the general problem of research in psychotherapy, we will have to approach the Administration of the National Mental Health Act. The progress of our research work leads away from specific, isolated projects and makes necessary financial support for very generally formulated projects. The hypnotherapy project leads to a broad research in therapy within the framework of which all kinds of therapies may be subjected to scrutiny and investigation, and within the framework of which the psychology of all types of adjuncts of therapy, e.g., hypnosis, drugs, etc., can be freely investigated.

In financing our research work we had also the difficulty that we have had to search for money for definite research projects or accept money that could be had for a certain research and had to search then for people to do it. These procedures are wasteful. We need finances to assure global

coverage of our research, allowing to bring in new research workers on their own terms without pre-defined projects, supporting them to develop their own research projects, with their tenure not tied to specific projects. This is the way our so far successful projects have been built up. Therefore, either we will obtain unearmarked research funds directly given to our Foundation from private individuals or we must obtain grants financing research positions rather than research projects from various foundations without stipulation of the type of research to be done by the men we obtain to fill these positions.

We have been making extensive preparations in the course of this year for our future research program. The plans center around the problems we consider at present crucial for our field:

- 1) the research project on the application of hypnosis in modern psychotherapy is to be enlarged into a general exploration of various psychotherapeutic procedures and various adjuncts of psychotherapy.
- 2) A contribution toward the development of preventive psychiatry is to be made through exploration of the development of infants and small children and therefore our research in infancy which has been in preparation for the last two years has come more and more into the center of our attention.
- 3) Our diagnostic test tools need improvement and adding of the new standardized validated testing procedures. Therefore, we have set up plans to continue the work started with the project which brought forth the volumes on "Diagnostic Psychological Testing." These plans include explorations of perceptual processes for diagnostic purposes and explorations of thought organization in schizophrenia.
- 4) Definitive work in etiological classification of psychiatric disorders is one of the most urgent needs of psychiatric practice, training, and clinical research. We have made preparations to embark early on a large-scale nosological explorations to establish the actual form varieties of psychiatric illness take in our times. The plan of this investigation includes the follow-up and re-study of 3000 cases seen in this Institution in the course of the last ten years. The follow-up work which is one of the most sorely neglected procedures in psychiatric work all over the country will come in as an important aid in this exploration.
- 5) Selection principles for candidates for psychiatric training are urgently needed to expedite training, therefore we undertook such selection projects in collaboration with the Veterans Administration.

Thus, the five outstanding fields of exploration we are planning to embark on or to continue are: (a) evaluation of therapies, (b) contribution to preventive psychiatry by infant and small child studies, (c) development of more effective diagnostic testing tools, (d) general nosological, etiological exploration of psychiatric disease, (e) search for criteria: what makes a good psychiatrist and a good psychologist.

The field is wide open, in spite of the advancements of the last fifty years, little of all these problems has been settled definitely and it is our job to contribute directly with our research and indirectly with our influencing psychiatric, psychological and general public consciousness to the solution of these problems. Somehow it is hard to escape the impression that we are late and the time is flying: research is the fat of the land on which practice and teaching live—we must act vigorously to replenish this fat of the land.

# THE TRAINING OF CLINICAL PSYCHOLOGISTS'

CHARLES A. ULLMANN

*War Department, Washington, D. C.*

THE preparation of clinical psychologists for professional employment has been the subject of much study during recent years. It is regrettable, therefore, that the title and introductory remarks of the article by Hutt and Milton (3) in the *AMERICAN PSYCHOLOGIST* of February 1947 should have carried the suggestion that the account which followed constituted a full record of the professional employment of clinical psychologists in the military service. And there is reasonable question regarding the wisdom of the suggestion contained in their concluding remarks which urged that the training of clinical psychologists be altered toward meeting situations such as presented by the Army medical program.

If we may accept Doll's (2) definition of clinical psychology as "the science and art of employing psychological principles, methods and procedures to promote the welfare of the individual person for purposes of optimum social adjustment and expression," clinical psychology was practiced in the Army by professionally trained workers as early as 1942, more than two and one-half years prior to the inception of the Surgeon General's program described by Hutt and Milton.

This earlier work followed the authorization (6) by the War Department on July 17, 1941, of the inauguration of special training units at replacement training centers for the "training of individuals who by reason of mental attitude or capacity, lack of ability to understand or speak the English language, inability to read and write, lack of common knowledge, or other deficiency, are not immediately suited to undertake the regular replacement training center course of instruction prescribed for trainees, or who during the regular course of instruction indicate that they require special attention." A correlative feature of this activity was to

provide a basis for the return to civilian life of those who could not be made into useful soldiers within a reasonable period of time. Clinical psychologists were assigned to duty at training centers to implement the above program. In the early part of 1943, they were also assigned to replacement depots both in the continental United States and overseas, where they were able to control the further assignment of psychoneurotic casualties.

The survey made by Hutt and Milton of the trend of activities in the Medical Department during the one and one-half year period from September 1944 to April 1946 led them to emphasize the importance of personality testing and evaluation, of intensive supervised training in counseling and therapy, and of the opportunity for clinical research in the training of clinical psychologists who are called upon to work with neuropsychiatric patients.

While there is no intention of denying the desirability of experience in the above fields for clinical psychologists, the present writer does contend that the training of clinical psychologists should not be too heavily predicated on statistics derived from a job analysis of duties in a special situation. The evidence submitted by Hutt and Milton reflects the medical interest in and control of psychological services in the wartime program surveyed, and any inferences for the training of clinical psychologists are to that extent limited.

The duties performed by some clinical psychologists in the special training program of the Army offer useful hints regarding professional preparation which supplement the suggestions of Hutt and Milton. The trend noted by these authors toward the increased employment of clinical psychologists in individual therapy should not be allowed to obscure the fact that the objectives of clinical psychologists in working with individuals who presented various adjustment difficulties, were often accomplished through the administrative processes of planning, organizing, and controlling a training activity and the relation of individual soldiers to it. More

<sup>1</sup> The opinions expressed in this article are those of the author and are not set forth in his capacity as an employee of the War Department. Approval of the article or concurrence in the statements by the War Department is not to be implied.

specifically, this was done in special training units by developing principles and techniques for selecting trainees who might reasonably profit from such training; by selecting and instructing trainer personnel; by developing courses of instruction and controlling other factors, such as living arrangements; by devising training aids; by producing practical techniques for evaluating performance; by making suitable disposition of various individuals with limited possibilities of development; and by interpreting the possibilities and limitations of special training to staff officers and suggesting workable alternatives for problems outside the legitimate scope of the special training program.

On the basis of such experiences, the writer suggests that the services of clinical psychologists will be accorded substantially higher recognition in proportion to the degree to which, in addition to psychological insight, they demonstrate dependable administrative capabilities. When clinical psychology is practiced under medical auspices, however, the duties of psychologists are conceived primarily as an adjunct to psychiatric techniques in diagnosis and therapy. In this ancillary role, a less responsible level of performance is evidently expected, and the professional qualifications are adjusted to such a level of service.

An example of this is the program established recently by the War Department (4) for the appointment of officers to the Regular Army, under Public Law 670 (79th Congress), providing for the commissioning of personnel in the Medical, Dental and Veterinary Corps of the Medical Department in the grade of first lieutenant with less than three years actual or constructive service, and in the grade of captain with three or more but less than twelve years service. Officers of the Pharmacy Corps, to which clinical psychologists are currently assigned, are commissioned as second lieutenants with less than three years actual or constructive service and as first lieutenants with three or more but less than six years actual or constructive service. (Constructive service credit is based on the amount by which the age of the applicant on the date of appointment exceeds 25 years.) Under these conditions, it is not surprising to witness an exodus of qualified psychologists from the military service.

To-day "the loss of qualified psychiatrists and auxiliary personnel is such that it is rapidly becoming

impossible for the Medical Department to carry out its mission in the care, treatment, and proper disposition of neuropsychiatric casualties and to give assistance and advice in the prevention of those casualties (5)." In the military neuropsychiatry training program recently established to meet this situation, the Medical Department has set up a 26-week course for training and designation as clinical psychologists personnel who satisfy the following requirements:

"Should have a Master's Degree in psychology with specialization in clinical, educational, or industrial psychology; or at least a college education with specialization in education, personnel administration, or educational or clinical psychology, or equivalent training and experience." Officers who are college graduates, possessing certain specified military occupational classifications but not possessing all specialized educational requirements, may apply for training.

Educational-vocational prerequisites for the thirteen-week course for enlisted clinical psychology assistants are civilian experience in educational, clinical, vocational, or industrial psychology, or two years of college with either present or potential qualification as Occupational Counselor, Classification Specialist, or Personnel Technician.

It is evident from the foregoing that the current and projected use of psychologists in medical installations of the Army is not such as to attract or retain many qualified persons in competition with opportunities for professional activity in civilian life. Qualified psychologists who accept the status tendered them in the Regular Army are bidding for the professional frustration described so poignantly by Chase (1) in the February issue of the AMERICAN PSYCHOLOGIST. Those concerned with the professional preparation of psychologists will therefore be inclined to question the extent to which the training of clinical psychologists should be influenced by the activities assigned or permitted clinicians in Army medical installations. It may be that clinical psychologists will attain full professional stature, both intrinsically and in relation to other professions, only if, in addition to developing insight into personality and competence in counseling and therapy, they acquire expertness in organization and management and develop and apply their administrative capacities.

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6. Mobilization Training Program (20-1) for Special Training Units at Replacement Training Centers, War Department, Washington, D. C., July 17, 1941.

(Continued from cover 2)

GEORGE ALLEN KRAMER

Main Dispensary

Naval Air Station

Norfolk, Virginia

JEANE ANN LEE

736 Fairmount St., N.W.

Washington, D. C.

JOHN PHILIP MADEIRA

TAG. Convalescent Hospital

Camp Lee, Virginia

M. J. MAYO

Teacher of Educ. Psychology

Harris Teachers College

St. Louis, Missouri

FRANCES JACOBSEN NORTON

Western Electric Company

Chicago, Illinois

MRS. ELEANOR B. PLAT

1518 Jonquil Terrace

Chicago 26, Illinois

DOROTHY RANSOM

1706 New Hampshire Ave., N.W.

Washington, D. C.

BERT A. ROENS

APO 4305

c/o Postmaster

San Francisco, Calif.

JEROME SCHIFFER

Dannall General Hospital

Danville, Kentucky

BERNARD C. SULLIVAN

MPEU #5 AAFTC #1

Miami Beach, Florida

WILLIAM M. WHEELER

1225 State Street

Santa Barbara, Calif.

STELLA H. WHITE (Mrs. M. J.)

Graduate Student

University of North Carolina

Chapel Hill, North Carolina

JANE HUTCHINSON WINGO

907 South Wolcott

Chicago, Ill.



# THE CONFERENCE ON GENETICS AND SOCIAL BEHAVIOR AT THE ROSCOE B. JACKSON MEMORIAL LABORATORY

J. P. SCOTT

*Roscoe B. Jackson Memorial Laboratory  
Bar Harbor, Maine*

AS PART of the new program of psychological and sociobiological studies at the Roscoe B. Jackson Memorial Laboratory, a conference was held at Bar Harbor on September 10-13, 1946 on the subject of "Genetics and Social Behavior."

The general policy of the Division of Behavior Studies at the Jackson Laboratory is that its research should have some bearing on basic general theories of comparative sociology and social psychology, with the ultimate goal that these studies will be useful in solving human social problems. The members of the conference were therefore asked to advise the laboratory regarding the areas of research which appeared to be most important, most fruitful, and best adapted to the facilities of the Jackson Laboratory.

With Dr. Robert M. Yerkes as General Chairman of the conference, the members were organized into committees which reported on the following general subjects:

The Genetic Background of Behavior: Frank A. Beach, Clyde E. Keeler, George W. Woolley; W. L. Russell (Chairman)

Social Behavior and Motivation: David M. Levy, Nicholas E. Collias, Elizabeth A. Bee-man; Gardner Murphy (Chairman)

Abnormal Behavior and Emotions: Halsey J. Bagg, Calvin S. Hall, John L. Fuller, Doris Twitchell-Allen; Howard S. Liddell and O. Hobart Mowrer (Chairmen)

Intelligence and Learning: Lloyd V. Searle, Walker M. Dawson, T. C. Schneirla, H. H. Strandskov; Calvin P. Stone and Neal E. Miller (Chairmen)

The Physiological Background of Behavior: E. W. Dempsey, W. C. Young, B. Ginsburg,

E. M. Vicari, R. S. Morison, M. A. Kennard; C. T. Morgan and F. A. Beach (Chairmen)

Social Organization and Leadership: Nicholas Collias, J. P. Scott, Lois Barclay Murphy, Robert M. Yerkes; C. R. Carpenter (Chairman)

The conference members first examined the resources of the laboratory, including the many inbred strains of genetically pure mice which have so long been useful in cancer research as well as the newer facilities at Hamilton Station, where a behavior laboratory has been set up and where other genetic stocks of mammals, particularly dogs, are available.

The meetings resolved themselves into informal talks on the relationship of current experimental work to the laboratory and were later summarized as committee reports after much discussion. There was no pressure to bring in a unified report of which every one could give entire approval, since it was felt that this would probably handicap suggestions for new work.

The members of the committee on the Genetic Background of Social Behavior tended to emphasize the usefulness of animals which have controlled heredity, particularly pointing out the richness of material available in the Jackson Laboratory's stocks of inbred mice. They also emphasized the need for research on the pleiotropic effects of genes which may affect behavior.

In the discussion of Social Behavior and Motivation there was a tendency to remind the members of the many unsolved problems relating to aggressive and defensive fighting. It was also suggested that the theory of interaction between various types of motivation and emotional factors was a very important one; and that the genetic theory of factors which interact, rather than producing simple addi-



tive effects is also important in psychology. The need for the study of the emotion of fear was brought out in the discussion of abnormal behavior, and it was further suggested that emotions could be related to learning theory by considering unpleasant emotions as problems which had to be solved and which might lead to neurotic behavior if not solved properly. In this as in several other committee sessions, attention was called to the need for research in border-line areas between human and animal societies. Specific questions were raised regarding animal language and animal culture. Clear answers to these problems would make possible much better comparisons between animal and human data. It was also suggested that the techniques for producing experimental neuroses could be applied to the genetic material available at the Jackson Laboratory with an idea of finding out whether or not there were genetic differences in nervous stability.

It was strongly argued that other factors than basic ability may lead to differences in learning and intelligence tests, that differences in emotions and motivation are particularly important, as well as differences in responsiveness to stimulus cues. This problem needs additional investigation in both animal and human subjects.

The committee on the Physiological Background of Behavior discussed the possibility that differences in end-organ responses to hormones might be the basis for genetic differences in certain types of social behavior, particularly sexual behavior and the care of the young. The committee also suggested that the time was probably ripe for an analysis of behavior differences in terms of the chemistry of the enzyme systems of nervous tissues.

Meeting on the last day, the committee on Social Organization and Leadership stressed the importance of considering any behavior trait in relation to the animal society as a whole, and it was pointed out that there was a great need for the study of social behavior on the levels of the group and the

whole society, as well as with individuals. To this end field studies as well as laboratory studies are invaluable. The problem of leadership and social control is an especially important one from the point of view of practical application of scientific discoveries in the social sciences. There was again an emphasis on the study of aggressive versus cooperative tendencies in societies.

Outside the regular program of the conference C. R. Carpenter discussed the problem of re-education in Germany; H. S. Liddell and others discussed the problem of studying emotional and neurotic behavior in free situations; and a special committee of science writers reported on the best methods for making scientific research socially effective.

The conference was run along somewhat unusual lines, which may have had something to do with its success. The members were limited in number and selected to represent one common interest and many different points of view. The conference was held in the same building in which the members ate and slept, which meant that they could be in constant contact with each other. Perhaps most important was the feature of asking the members not to prepare formal papers in advance of the conference. This meant that the committee members had to consult each other and make their talks and discussions conform to the audience and purpose of the conference. The result was that all programs were attended almost unanimously, and heard with great interest. The conference was particularly successful in arousing enthusiasm for work, both at the Jackson Laboratory and by the visiting members elsewhere.

Considered as a whole, the reports give innumerable valuable research suggestions, and lay the groundwork for cooperative effort, both between the Jackson Laboratory and other institutions, and between the laboratory and private summer investigators. A complete report of the conference proceedings will be published separately.

## Comment

### REPLY TO "PROFESSIONAL FRUSTRATION IN GOVERNMENT PSYCHOLOGISTS"<sup>1</sup>

With the government's peacetime need for trained psychologists at an all-time high and with the prestige of government science already at a low, it is necessary that criticisms of government service be phrased more precisely if we are to avoid wholesale damage to important areas of professional psychology. Dr. Chase has stated in a recent article, *THIS JOURNAL*, 1947, 2, 73-75, that government psychologists are "plagued by the condition of 'professional frustration'" resulting from attempts to realize professional values which are in conflict with those of government administrators. Though a careful reading of the article will show that Dr. Chase was referring only to the fields of clinical and personnel psychology, his conclusions were so general that one might well have received the impression that *all* government psychologists were equally thwarted. Such is not the case, and it is unfortunate that the all-inclusive title and the sweeping conclusions could not have been expurgated of their generalities before publication.

An example of one group of government psychologists who have not experienced professional frustration is furnished by the experimental psychologists at the Naval Research Laboratory. Either due to the fact that their work is carried out in a laboratory or because of the different field of psychology involved, the causes of frustration mentioned as being wide-spread in government do not arise at NRL. Here, psychologists are treated not as *technicians* but as *scientists*. They occupy positions identical with those held by physicists, chemists, and research engineers. Furthermore, their scientific judgments are accepted without question by the agencies within the Navy.

Dr. Chase has stated that it is necessary to compromise one's professional values in government psychology. This is not true at NRL. At this

<sup>1</sup> "The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large".

laboratory, psychological research programs are conceived by psychologists, executed by psychologists, and reported by psychologists. There is no administrative interference whatsoever with any phase of research. Every psychologist in the laboratory stands professionally upon his own feet. He is free to conduct his research in whatever way he sees fit. It is not necessary that he work through administrators or around administrators in carrying out his program. He must succeed or fail on his own.

There are, no doubt, many other government psychologists who, like myself, do not share with Dr. Chase his belief in the universal necessity of professional frustration within the government. It is hoped that they will also make their positions clear in order to help correct the false impressions created by Dr. Chase's article.

FRANKLIN V. TAYLOR  
*Psychology Section, Radio Division III*  
*Naval Research Laboratory*

### PSYCHOLOGISTS' OPINIONS VS. THEIR SENSE OF EVIDENCE

Anne Anastasi (*THIS JOURNAL*, 1947, 2, 57-62) tells what 56 psychologists think about the importance of the undergraduate laboratory course in general experimental psychology, especially as training for clinical psychologists. There is expressed a fairly general belief that even clinical psychologists should understand scientific method and should learn to think in terms of concrete evidence. For this reason her article impresses me because it shows how these psychologists who want their students trained in experimental method fail in their replies to get away from the *dicta* of the expert who feels assured that his authority is valid. They have their opinions, but they present very little evidence and no one of them mentions *controls*. (Doubtless I am here criticizing my own report to Anastasi.)

I count twelve important statements of opinion, unsupported except by the authority of the speaker. "We believe the requirement of one semester of experimental psychology is essential..." "My own

personal reaction is . . . " "I think there is a certain psychological sophistication that comes from . . . " "I should not like to see . . . " "My personal feeling is very definitely that . . . "

There are four bits of evidence given. Three of these (p. 61) state that, in the recent emergency, men trained in experimental psychology rapidly acquired skill in clinical psychology. The other item (p. 60) is that one respondent can, in advanced courses, separate the papers of the students who have had training in experimental psychology from the other papers.

Perhaps the expert is to be trusted in these matters, even if he does not rely on evidence to show the superiority of those persons who are trained to rely on evidence, but I do not feel sure. There is so much stereotypy and cant in the consideration of these problems of transfer of training. I should like to see some controls first, and then, if there is a demonstrable difference, get evidence to show whether the difference is due to courses taken and passed, or to the motivational and intellectual differences that lead some people to choose science, when they have a choice, and other people to omit it.

EDWIN G. BORING  
*Harvard University*

#### MORE EFFECTIVE USE OF MACHINE SCORED EXAMINATIONS

With soaring enrollments in introductory courses in psychology, many departments have begun to use machine scored examinations to free staff members from routine paper scoring. The system in common use is made available by the International Business Machines Company, and furnishes a printed answer sheet which can be used in conjunction with a mimeographed set of questions.

The answer sheets are designed to be flexible so that either true-false or multiple choice examinations may be used. The student indicates his choice of answer by making a mark with a special pencil.

The scoring machine provides a rapid and accurate score—either items correct, items wrong, or both. Some instructors have encountered difficulty in discussing examinations with their classes when the papers are returned to the students because the machine makes no marks on the paper—it in no way indicates which items are correct and which are in error. For the teacher who uses examinations as a pedagogical as well as a measuring device, this constitutes a genuine block to the use of this time saving machine.

Psychologists at the University of Wisconsin have devised a method which eliminates this disadvantage and increases the usefulness of machine scored examinations. After the machine scoring is completed, the papers are accurately stacked, and the key is placed on the top of the pile. The stack of papers is then firmly clamped to a soft wooden board by means of C clamps. A hole is then drilled through each correct answer on the key sheet, through all of the papers to the wooden block beneath using a  $\frac{1}{16}$  inch twist drill in a drill press. It has been discovered that the best result will be obtained when the drill press is set to operate at moderately high speed to produce clean holes without tearing the paper. Drilling five hundred answer sheets for a hundred item examination takes only about seven minutes.

The result of the drilling operation is that each student is provided with an accurate copy of the key, and can observe his errors readily—each blackened area that does not have a hole drilled through represents an error.

RAYMOND C. BICE  
*University of Wisconsin*

## *Across the Secretary's Desk*

### APRIL IS A MONTH OF MEETINGS

April is a month of meetings for psychologists. During April the Southern, Southwestern, and Eastern Psychological Associations held their annual meetings. The Division of Anthropology and Psychology of the National Research Council met. So did the APA's Board of Editors and Policy and Planning Board. Just barely outside the month, the Midwestern Psychological Association held its annual meeting and the APA Board of Directors held the winter meeting called for by the new constitution.

The meetings of the three APA Boards—Directors, Editors, and Policy and Planning—provided an opportunity for much APA work. The formal reports of these Boards will appear in later issues of the *AMERICAN PSYCHOLOGIST*. Here are some of the highlights.

The Board of Directors was the first to meet. For three days, from March 28 through March 30, its members lived and worked at the Michigan Union Building at the University of Michigan. All members were present. They are pictured around the conference table in the accompanying photograph.

The largest single item of business was considering 580 applicants for Associate membership. This is the first year that new Associates have been elected at any time other than the annual meeting of the Association. This change was made for two reasons. The number of applicants has grown so great that it took up too much of the Board's time in September, when many other matters had to be prepared by the Board for action at the annual meeting of the Council of Representatives. Consequently, last September, the Council delegated responsibility for electing new Associates to the Board of Directors.

The second reason grew out of the new divisional structure of the APA. When new applicants are considered both by the APA and by the divisions at the September meeting, confusion is bound to arise over whether an applicant has been approved both by the APA and by the division of his choice. Moving APA election to the winter allows the applicant to join APA and then to apply to a division. In September the divisions can act upon the applica-

tions without wondering whether the applicant is going to be admitted to the APA.

The Board of Directors gave a good deal of attention to the problems of training clinical psychologists. This has been a matter of importance to the APA and AAAP for some years; the current program of the Veterans Administration and the prospective program of the United States Public Health Service have increased its importance. Various aspects of the problem have been considered in past years by the Division of Clinical and Abnormal Psychology and the APA Committee on Graduate and Professional Training, Committee on Clinical Psychology, Committee on Standards for Psychological Service Centers, and Committee of University Department Chairmen. In order to coordinate the work of these groups, the Board created a new Committee on the Training of Clinical Psychologists. David Shakow was named chairman. The other members will be named after consultation with the Division of Clinical and Abnormal Psychology. The Board requested the new committee to prepare a fairly detailed description of an ideal curriculum for the graduate training of clinical psychologists, and to have that curriculum ready for consideration next September. The new committee's second responsibility is to refine the list of institutions approved for graduate training in clinical psychology. The list will be published by the Committee on Graduate and Professional Training in the June *AMERICAN PSYCHOLOGIST*.

With an increased number of psychologists hanging out their shingles as practicing psychologists, the question of ethical standards is coming up more and more frequently. The APA has never had a generally accepted code of ethical practices. In order to start consideration of what should go into such a code, the Board authorized the appointment of a Committee on Ethical Standards for Psychology. Nominations for the committee have been received from the divisions, but the members have not yet been named. The committee's goal is to draft a code of ethics, but that goal will probably not be reached for several years. The problem is too complex to solve hastily. Only careful consideration by many groups over a period of some time can provide background for developing a fair and workable code.



BOARD OF DIRECTORS AND OFFICERS  
AMERICAN PSYCHOLOGICAL ASSOCIATION

Reading left to right: CARL R. ROGERS, *President*; JOHN F. DASHIELL, LAURANCE F. SHAFFER; WILLIAM A. HUNT; the late WILLARD L. VALENTINE, *Treasurer*; HELEN PEAK, *Recording Secretary*; DONALD G. MARQUIS, *President-elect*; CLARENCE H. GRAHAM; EDWARD C. TOLMAN; and RICHARD M. ELLIOT



The first responsibility of the new committee is to see that these background discussions get started.

Much of the Board of Directors' time was given to the selection of persons for nomination as members of various APA committees or as representatives to other organizations. These recommendations will be given to the Council of Representatives this summer.

The Board of Editors met on April 11 at the Hotel Pennsylvania in New York City. Reports were received from each journal editor for the year 1946. The most important matter of general policy considered was the question of whether APA journals should give early publication to articles when the author is willing to pay all the costs. This has been done in some of the journals.

Opponents of the procedure claim that it gives an unfair advantage to the person with money since it allows him to buy early publication. His poorer colleague has to wait for his article to appear in its normal turn.

Defenders of the procedure claim two advantages for it in addition to any advantage the author gets from having his article appear earlier than it normally would. First, it increases the amount of material that the subscriber gets. These articles are not included in the number of pages normally included in each volume; they are extra pages. Second, it decreases the lag in publication for all articles received later, since it gets some articles published without using up any of the journal's normal quota of pages.

Last September a joint meeting of the Board of Editors and the Committee on Publications debated whether this policy should be continued or dropped. It has since been considered by the Committee on Publications and the Board of Editors separately. No final agreement has been reached. Some members of both groups still favor the policy; others oppose it. The Council of Representatives will be asked next September to decide the question as a matter of general APA policy.

The Policy and Planning Board met April 12-15 at Totowa, New Jersey, where Superintendent A. H. Meese of the North Jersey Training School generously provided a meeting room and quarters for the members of the Board. All members were present for the entire four days: E. R. Hilgard, *Chairman*, Marion Bills, *Secretary*, Clarence Graham, Donald G. Marquis, Robert R. Sears, Laurance F. Shaffer, David Shakow, Ruth Tolman, and Lloyd N. Yepsen.

Since the Policy and Planning Board does not have to worry about administrative detail, it is free to devote its time to considering in larger perspective what is good for psychology. This year's meeting was concerned with the question, "Who is a psychologist?" Most of the four days of discussion centered around attempts to answer that question from the standpoints of certification of psychologists, accreditation of training institutions, establishment of APA membership requirements, establishment of Civil Service employment requirements, selection of titles to designate psychologists in military service, and kindred problems of standards. It was generally agreed that the number of different levels of psychologists should be as few as possible and as uniform as possible. Out of this general policy there grew a number of specific recommendations. A uniform standard for certification of psychologists by states was recommended. A change in the minimum requirements for election as a Fellow of the APA was recommended so that they would be the same as the minimum for certification required by the American Board of Examiners in Professional Psychology. The Board is recommending that by 1950 the minimum requirements for election as an Associate member of the APA be raised to holding a PhD in psychology. Such a change would not affect the status of the present Associates. This change would make Associate membership requirements agree with the recommended requirements for state certification and with the minimum for employment at professional levels (P-4 and higher) being adopted by a number of government agencies.

Since some of these changes would require amending the present By-Laws, they cannot go into effect until after they are approved by the Council of Representatives and voted upon by the members. All APA members will have to consider these changes. As background for that consideration, they should read the report of the Policy and Planning Board's discussion. It will appear in the June issue of the AMERICAN PSYCHOLOGIST.

All three board meetings were work sessions. The Board of Directors and the Policy and Planning Board met morning, afternoon, and night. Between formal sessions, discussions went on, and reports were read, written, corrected, and criticized. The rapid expansion of opportunities and responsibilities for psychologists and the rapid growth of the Association make much work for the officers and require careful planning for the future. DAEL WOLFLE



## Psychological Notes and News

WILLARD L. VALENTINE died April 5, 1947 of a sudden heart attack. He was 42 years old. He obtained the Ph.D. from Ohio State University in 1929. After serving on the faculty of Ohio State University, he became chairman of the department of psychology at Northwestern University in 1940. In 1937 he was appointed treasurer of the American Psychological Association. He served for many years as business manager of APA publications. At the time of his death he was the editor of *Science* and treasurer of the American Psychological Association.

WILLIAM MASON DANNER, JR. died December 20, 1946 at the age of 57 years.

P. RANSCHBURG, long a cooperating editor of *Psychological Abstracts*, died during the siege of Budapest in January 1945.

The 1946-1947 Yearbook of the American Psychological Association has been mailed to all members. Copies of the Yearbook may be obtained by sending 50 cents in stamps to the Office of the Executive Secretary.

By action of the Board of Directors, the 1946-1947 Yearbook is an address book. The addresses given are those supplied by the members as of September 20, 1946 for the mailing of their journals and other materials from APA. Associates elected at the September 1946 meeting are not included.

The 1948 Yearbook will contain biographical entries of all members similar to those appearing in *American Men of Science*. The entries will contain educational records and professional experience. Divisional affiliation will be given in those cases where divisions have completed their membership lists.

The American Board of Examiners in Professional Psychology, which was approved last year by the APA, formally came into existence on April 23 when it was incorporated in the District of Columbia as a non-profit corporation. Since District of Columbia laws require at least two of the three incorporators to be residents, WALTER V. BINGHAM, JOHN G. JEN-

KINS, and DAEL WOLFLE served. The incorporators then held a meeting at which MARION A. BILLS, JOHN G. DARLEY, CARLYLE JACOBSEN, JOHN G. JENKINS, GEORGE A. KELLY, DAVID SHAKOW, CARROLL L. SHARTLE, DAVID WECHSLER, and F. L. WELLS were elected as Trustees. The Trustees met in Chicago on May 3 to elect permanent officers and to initiate the Board's program of examining and certifying psychologists engaged in clinical, industrial, and counseling work.

HENRY N. PETERS, who was formerly connected with the Psychological Clinic, University of Hawaii, has joined the staff of the department of psychology of the University of Arkansas as an associate professor.

DAVID KRECH of Swarthmore College has accepted an appointment as associate professor of psychology at the University of California, Berkeley, beginning in the academic year 1947-1948.

C. ROBERT PACE has been appointed assistant to the president in charge of educational research and evaluation at American University. He had been with the Bureau of Naval Personnel for three and one half years, first as Head of the Research Unit in Standards and Curriculum Division, and later as Head of the Field Research Section, Research Activity.

ROSS A. MCFARLAND, Division of Research of the Graduate School of Business Administration, Harvard University, has been made a member of the Committee on Operating Problems of the National Advisory Committee for Aeronautics.

CALVIN P. STONE of Stanford University, FRANK GELDARD of the University of Virginia, DONALD GLAD of San Jose College, and JAMES EGAN of Harvard University will be visiting lecturers in the summer sessions at the University of Wisconsin.

CHARLES H. GRIFFITS, professor of psychology at the University of Michigan, has been granted a sab-

batical leave of absence for the second semester of the academic year 1946-1947.

The department of psychology of the University of California at Los Angeles has invited the following psychologists to offer courses in their specialties during the two summer sessions this year: FREDERICK B. DAVIS, M. BRUCE FISHER, WARD C. HALSTEAD, OSCAR J. KAPLAN, T. W. RICHARDS, CARL R. ROGERS, ANTHONY J. SMITH, G. R. WENDT, STANLEY B. WILLIAMS, and PAUL T. YOUNG.

The following is a list of the clinical psychology trainees now enrolled at the 22 universities cooperating in the VA training program in clinical psychology:

1. *University of California at Berkeley*
    - ROGER E. BARDSLEY
    - JOHN N. CAMPION
    - LEWIS G. CARPENTER
    - WILLIAM COOK
    - ALLAN T. DITTMANN
    - BEN C. FINNEY
    - JEROME FISHER
    - MERVIN FREEDMAN
    - TIMOTHY F. LEARY
    - MARTIN S. LEVINE
    - HERBERT NABOISEK
    - ABEL G. OSSORIO
    - JAMES O. PALMER
    - ROSEMARY PETERS
    - ALEX ROSEN
    - PATRICK LEE SULLIVAN
    - TRENTON W. WANN
    - EVAN LEE WOLFE
  2. *University of California at Los Angeles*
    - GLEN A. BRACKBILL
    - CHARLES W. CABEEN
    - NORMAN L. FARBEROW
    - JOSEPH L. LAURIA
    - WALLACE V. LOCKWOOD
    - JOSEPH LUFT
    - ELMORE A. MARTIN
    - DONALD B. PETERS
    - CHARLYNE T. STORMENT
    - WILLIAM M. WHEELER
    - WAYNE W. WISHAM
  3. *University of Chicago*
    - EMMETT EARL BAUGHMAN
    - BENJAMIN BRODY
    - JOSEPH G. DAWSON
    - ALAN L. GREY
    - ALBERT L. HUNSICKER
    - VICTOR A. JACKSON
  - BENJAMIN A. JOSHEL
  - JOHN S. KAFKA
  - SEYMOUR L. LUSTMAN
  - ROBERT LEO MCFARLAND
  - HAROLD H. MOSAK
  - MAX M. NISSENSON
  - DAVID PEARL
  - RODERICK W. PUGH
  - ROBERT D. QUINN
  - NATHANIEL J. RASKIN
  - WILLIAM T. RAYMOND
  - SAUL M. SIEGEL
4. *Columbia University*
    - ALEX BRAIMAN
    - ALBERT V. FREEMAN
    - GORDON A. LOGAN
    - JOHN G. MARTIRE
    - MELVIN B. SWARTZ
  5. *Duke University*
    - AUDREY A. FOOR
    - HIRAM L. GORDON
    - WILLIAM C. HALLOW
    - BEVERLY C. MOSS
    - MORRIS ROSEMAN
    - HARLEY A. SCOTT
  6. *Fordham University*
    - MARTIN J. BRENNAN
    - CHARLES A. DEVINE
    - FRANCIS M. GILHOLLY
    - EDWARD J. MCCLOSKEY
    - EDWARD J. McLAUGHLIN
    - FRANK S. PUZZO
    - FREDERICK SCHILLER
    - JOSEPH J. SILVA
    - JOHN M. STANTON
    - JOSEPH J. VACCARO
    - JOSEPH R. ZUTELL
  7. *University of Illinois*
    - CHARLES J. BELLAVIA
    - JOSEPH J. DE LUCIA
  - ERIC DREIKURS
  - ANTHONY R. HYBL
  - KENNETH C. JOST
  - DALE C. LARSON
  - WILLIAM C. MCBRIDE
  - ALLEN S. PENMAN
  - GEORGE R. PRENTICE
  - NATHAN ROSENBERG
8. *State University of Iowa*
    - KENNETH B. BROWN
    - ROBERT EICHLER
    - R. S. REDMOUNT
    - L. I. SCHNEIDER
  9. *University of Kansas (Manning Foundation)*
    - WILLIAM H. BROWN
    - JOHN T. DICKSON
    - G. A. EHRENREICH
    - VIVIAN D. FLEMING
    - NATHAN GREENBAUM
    - IRENE HOLLINGSWORTH
    - PHILIP S. HOLZMAN
    - MILTON J. HOROWITZ
    - EUGENE S. JONES
    - ARTHUR D. KOBLER
    - HARRY LEVINSON
    - H. L. MANNING, JR.
    - HELEN K. MOORE
    - VERLYN L. NORRIS
    - C. E. PRINCE
    - H. J. SCHLESINGER
    - LEATRICE STYRT
    - GEORGE H. WEBER
  10. *University of Kentucky*
    - RAYMOND DURHAM
    - J. HARRY FEAMSTER
    - WILLIAM E. HARRIS
    - JOHN K. KEW
    - JOE LAWSON, JR.
    - HARVEY LEECH
    - CHAMP LIGON
    - ASHLEY ST. J. MIXSON
    - RICHARD OWSLEY
    - BARRY SHAW
  11. *University of Michigan*
    - STEWART G. ARMITAGE
    - ROBERT P. BARRELL
    - CHARLES A. DAILEY
    - GERALD HOVER
    - ROBERT G. JENSEN
    - JULIAN LASKY
    - EDWARD V. MALCOLM
    - KARL E. POTTHARST
    - EGAN A. RINGWALL
    - HENRY SAMUELS
    - RICHARD SANDERS
    - DAVID E. SHEER
    - JAMES S. SIMKIN
  - CLEMENT M. THOMPSON
  - BENJAMIN W. WHITE
  - WILBUR A. WILLIAMS
12. *University of Minnesota*
    - ALBERT L. ANDERSEN
    - ISADORE ARSHACK
    - FRANCIS X. BARRON
    - GEORGE S. WELSH
  13. *New York University*
    - NORMAN BERK
    - LEONARD BERKOWITZ
    - HERBERT FENSTERHEIM
    - SEYMOUR GAIBER
    - LEONARD HORWITZ
    - ALEXANDER JASNOW
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The requirements for membership on the committee are membership in the British Psychological Society, an Honors Degree in Psychology or its equivalent, and the successful completion of a full training course at a training center recognized by the Executive Committee or qualifications considered equivalent.

The committee feels that their work has been valuable so far in that they have been able to insist on training as a prerequisite for entry into the field.

The first issue of a new quarterly, *Human Relations*, announced jointly by the Tavistock Institute of Human Relations, London and the Research Center for Group Dynamics, Massachusetts Institute of Technology, appeared in April. The editorial committee consists of ELLIOT JAKES, JOHN RICKMAN, J. D. SUTHERLAND, ERIC L. TRIST, and A. T. M. WILSON for the Tavistock Institute of Human Relations, and DORWIN CARTWRIGHT, LEON FESTINGER, RONALD LIPPITT and MARIAN RADKE for the Research Center for Group Dynamics. THOMAS S. FAIRLEY is managing editor.

*Human Relations* has been organized to serve as a channel in which work in the various social sciences may converge for comparative study at an international level. It is planned to supplement more specialized journals by providing side-by-side comparison of related work in sociology, psychology, economics, anthropology, and psychiatry.

Inquiries should be addressed to *Human Relations*, Research Center for Group Dynamics, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.

A new journal, the *British Journal of Statistical Psychology*, is being started. GODFREY THOMSON of the University of Edinburgh and CYRIL BURT of the University of London are the joint editors.

A new journal, the *International Journal of Opinion and Attitude Research*, is being published. The purpose of this journal is to provide a forum in which specialists of all countries can present and discuss the problems in opinion and attitude research. It is hoped that within a short time the scope of the journal will include all the countries where such research is being carried on. LASZLO RADVANYI, the editor, will appreciate any suggestions and advice which those doing research in this field may give

MILTON H. ERICKSON delivered a lecture on the Psychodynamics of Human Behavior at the University of Western Ontario on March 12.

Of interest to American psychologists is the formation of a Committee of Professional Psychologists (Mental Health) under the auspices of the British Psychological Society. This committee was organized to speak for psychologists on professional matters, and represents all psychologists in England, Wales, and Scotland engaged in the field of mental health.

The Committee has formulated a training scheme for workers in the field of mental health which includes the following provisions:

1. That the training for psychologists in the field of Mental Health in Childhood shall last for one year.

2. That candidates for training should not as a rule be accepted below the age of 25 years, and that they must have had a minimum of three years teaching experience or other acceptable experience with children.

3. A statement of the specific courses that the training should include.

4. That when circumstances permit, some statement or award, its form as yet unspecified, be made on the successful completion of training. At present the committee is taking part in the formulation of a salary scale for its members.

him. All communications should be addressed to Dr. Laszlo Radvanyi, Donato Guerra 1, Desp. 207, Mexico, D. F., Mexico.

International Universities Press announces the publication of *The Yearbook of Psychoanalysis*, Volume II, 1946. SANDOR LORAND is managing editor and the editorial board consists of HENRY A. BUNKER, ERNEST JONES, BERTRAM D. LEWIN, and C. P. OBERNDORF.

ROBERT S. DANIEL is teaching a graduate seminar at the University of Missouri on Professional Problems in Psychology. The principal topics in the course are: where to find material on psychological topics; how to prepare research material for publication; psychological careers and advancement; research facilities; and the psychologist's relation to his colleagues. The text for this course is the *Handbook of Psychological Literature*, by Louttit, supplemented by relevant journal articles and books.

Dr. Daniel has found that there are many techniques that experienced psychologists take for granted that are wholly new to even good graduate students. Although there is little in the course that the students would not eventually learn otherwise, the information is often obtained in a haphazard manner and much too late to facilitate graduate work.

Pi Lambda Theta, the National Association for Women in Education, announces that two awards of \$400 each will be granted this year for research on any aspect of the professional problems and contributions of women in education or another field. Three copies of the final report should be submitted to the Chairman of the Committee on Studies and Awards, Bess Goodykoontz, U. S. Office of Education, Washington 25, D. C. before July 1. ALICE I. BRYAN and EDWIN G. BORING won one of the 1946 awards for their paper *Women in American Psychology: Factors Affecting Their Professional Careers*. A condensed version of this article appeared in the January issue of THIS JOURNAL.

The committee on the Barbara Burks Memorial Fund has decided to apply the fund to the completion of her research on identical twins reared apart. ANNE ROE has agreed to undertake the assignment

of completing the study. An advisory committee for the project consists of ROBERT S. WOODWORTH, KATHERINE BREHME, and LEWIS Terman.

The sixth Purdue Industrial Personnel Testing Institute was held on April 21 to May 2. The course, open to industrial personnel men and employment managers, deals with the field of personnel testing. JOSEPH TIFFIN, C. H. LAWSHE, S. EDGAR WIRT, N. C. KEPHART, E. J. ASHER, A. C. ECKERMAN, and RICHARD FEINBERG made up the Institute staff.

The Colorado Psychological Association completed its formal organization with the adoption of a constitution and the election of officers. A. H. HILDEN is president; C. E. MEYERS, vice-president; R. W. SHAW, secretary-treasurer; and T. H. CUTLER and L. C. DOUGLASS, members-at-large of the Executive Committee.

On May 16, 1947 at the University of Washington, Seattle, there will be a meeting of psychologists to begin proceedings for a Washington State Psychological Association. Further information may be obtained by writing Dr. Edward S. Bordin, Student Counseling Center, State College of Washington, Pullman.

The Society of Experimental Psychologists met at Princeton University on April 9th and 10th. A symposium was held on heredity and environment with HERBERT S. LANGFELD presiding. At a dinner on April 9th WOLFGANG KÖHLER was awarded the Howard Crosby Warren Medal and Award for his studies on figural after effects as an approach to a more general theory of perceptual processes.

A conference on the experimental analysis of behavior will be held at Indiana University from June 16 to June 22. Further information may be obtained by writing to Dr. B. F. Skinner, Department of Psychology, Indiana University, Bloomington.

At the annual meeting of the Conference of State Directors and Supervisors of Special Education held at Atlantic City, March 3, a formal resolution was made to thank J. E. WALLACE WALLIN for his "in-

spiring leadership and guidance of the conference since its inception."

A guidance conference on the measurement of student adjustment and achievement conducted by the Bureau of Psychological Services will be held at Ann Arbor on June 26 and 27 under the auspices of the University of Michigan Institute for Human Adjustment. Interested persons are invited to write to Dr. Wilma T. Donahue, Bureau of Psychological Services, 1027 East Huron Street, Ann Arbor, Michigan.

The National Conference on the Blind Preschool Child was held from March 13 to 15 in New York City. On the first day the program dealt with the social work aspects, on the second with the educational aspects, and on the third with the medical aspects. The conference was arranged by Dr. Berthold Lowenfeld.

The Metropolitan New York Association of Applied Psychologists held a dinner meeting on April 1 at the Hotel Duane. The topic of discussion for the program was vocational advice for graduate students in psychology. Representatives of different aspects of psychology discussed what graduate students should do to prepare themselves to enter a specific branch of applied psychology.

The meeting of the Association of Midwestern College Psychiatrists and Clinical Psychologists was held at Ann Arbor on April 18 and 19. FRED McKINNEY is the president of this organization and WILLIAM M. GILBERT is the secretary-treasurer.

The National Council on Rehabilitation announces that *Rehabilitation of the Handicapped, A Bibliography, 1940-1946*, will soon go to press. It includes about 5,000 titles from publications dated January 1940 through December 1946. Information may be obtained from the National Council on Rehabilitation, 1790 Broadway, New York 19, New York.

A bill has been introduced into the House of Representatives to appropriate 12 million dollars to assist all the states and territories in extending and improving their health services for school children. The money is to be spent in the development of services for the prevention, diagnosis, and treatment of physi-

cal and mental defects. The long range objective of this National School Health Service bill is to assure that no American child grows up with physical or mental defects that could be prevented or corrected in childhood.

The Survey Research Center of the University of Michigan announces internships and assistantships for the academic year 1947-1948. The Survey Research Center has been established to perform five major functions: provide a well-trained staff for conducting surveys on economic and social problems; provide graduate training in all phases of survey methodology; conduct methodological research to improve and develop survey procedures; help integrate the social sciences by providing facilities for research on interdisciplinary problems; and foster basic theoretical advances in the social sciences based on new data from inter-disciplinary research.

Appointments will be available at all levels of experience from advanced undergraduate assistantships to post-doctoral internships. Stipends for half-time positions for graduate students will begin at \$1000 per annum. Those for full time post-doctoral internships will begin at \$3000 per annum. Applications for the academic year 1947-1948 must be received before August 1, 1947. In making applications a full statement of academic record, including five references, should be sent to Dr. Rensis Likert, Director, Survey Research Center, University of Michigan, Ann Arbor.

The department of psychology of the Merrill-Palmer School is offering two fellowships for the coming year. One is a junior fellowship leading to the MA. The stipend will be \$345 with free tuition. The other is a senior fellowship for a student with an MA and knowledge of some of the fundamentals of clinical practice. The stipend is \$1000 for ten months, with possible arrangements for maintenance. Interested persons should write to Dr. W. Mason Mathews, Psychology Department, Merrill-Palmer School, 71 Ferry Avenue, Detroit 2, Michigan.

The research project on the selection of clinical psychologists is planning an eight-week program for the study of applicants for VA training positions in clinical psychology. There will be an opportunity for a few psychologists who have recently received their doctorate or are within one year of it to partici-



pate in this assessment program. Board and room will be provided. Interested persons who are able to participate from July 1 to August 30 should write to Dr. E. Lowell Kelly, Department of Psychology, University of Michigan, Ann Arbor.

The University of Washington announces two openings for clinical psychologists to be filled next fall. The first position is for someone with the PhD and several years of post-doctorate clinical experience as well as an internship at a psychiatric institute for adults. The work will consist of teaching clinical courses at the graduate level and supervising a general training program in clinical psychology. It will carry the rank of assistant professor at a salary of \$3807, or associate professor, for an unusually well qualified candidate, at a salary of \$4608.

The second position is that of Resident Psychologist at the Buckley State Custodial School, with the rank of lecturer at the University of Washington. The PhD is required but not as extensive post-doctorate experience as for the first position. The salary is \$3000 plus maintenance.

Inquiries regarding these two positions should be addressed to the Department of Psychology, University of Washington, Seattle 5, Washington.

The Jewish Vocational Service wishes to employ vocational psychologists and vocational counselors in larger communities throughout the country. The requirement for these positions is the MA or equivalent, and the salaries are from \$2200 to \$4000. For information write to the Jewish Occupational Council, 1841 Broadway, New York 23, New York.

The Fairfield State Hospital announces several vacancies in the Psychological Laboratories for either men or women. The stipend is dependent on the qualifications and objectives of the applicants and ranges from \$1200 at the intern level, minimum requirement college degree with a major in psychology, to \$3240 at the senior staff grade. Full maintenance at the hospital including room, board, laundry, and limited medical care may be arranged at \$316 a year.

Applications should be submitted to Dr. Joseph R. Grassi, Director of Psychological Laboratories, Fairfield State Hospital, Newtown, Connecticut.

The New York State Department of Civil Service will conduct a series of examinations within the next

few months and the following titles will be included: #4331, Assistant in Test Development, Education Department, \$3000-3660; #6008, Junior Educational Supervisor, Research, Education Department, \$2280-2880; #6024, Senior State Veteran Counselor, Executive Department, \$4620-5720; and #6026, State Veteran Counselor, Executive Department, \$3720-4620. Interested applicants should write directly to the Department of Civil Service, State Office Building, Albany, New York, stating the title of the specific examination in which they are interested and a detailed announcement and application blank will be sent to them.

The New York Zoological Society, in order to utilize its resources for the investigation of animal behavior problems, is offering four grants-in-aid for work in the Zoological Park in the Bronx during the summer of 1947. The grants will be \$500 each and in addition the appointees will be provided with living quarters. The grants will be awarded to individuals who hold at least one advanced degree in the field of zoological sciences, and who are capable of independent and cooperative research. Applications should be made before May 15 to Fairfield Osborn, 630 Fifth Avenue, New York 20, New York.

The department of psychology of the University of Denver is offering several assistantships and fellowships to qualified graduate students. Persons with experience in clinical work with children or in student testing and counseling are particularly needed. Stipends range from \$600 to \$1,600 per year. Applications should be sent to Dr. R. B. Ammons, Department of Psychology, University of Denver, Denver, Colorado.

When you are changing your address for any of the journals published by the APA, or as a member of the APA, please let us know, if possible, four weeks in advance. Give old as well as new address and add zone number to meet postal requirements. If you are unable to notify us in advance kindly leave instructions and postage with your postmaster for forwarding your journals. Second class matter requires postage when remailed to a different address. All changes of address should be sent to the Office of the Executive Secretary, 1515 Massachusetts Avenue NW, Washington 5, D. C.

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